

CLAIMS

What is claimed is:

1. A method for transmitting power and data to a networked device, the
5 method comprising:
 applying two phases of three-phase power to the device via first and second power
conductors in a cable;
 applying a third phase of three-phase power and data signals to the device via a third
power conductor in the cable; and
10 applying data signals to the device and returning power via a neutral conductor in
the cable in cooperation with the third power conductor.
2. The method as recited in claim 1, further comprising interrupting power to
the first and second conductors while maintaining power and data signals to the device via
15 the third conductor and the neutral conductor.
3. The method of claim 1, further comprising coupling the device to an earth
ground via an earth ground conductor in the cable.
- 20 4. The method of claim 1, wherein the data signals include signals in
accordance with a predetermined data communications protocol.
5. The method of claim 4, wherein the data signals include signals in
accordance with a predetermined override protocol in addition to the data communications
25 protocol.
56. A method for transmitting power and data to a networked device, the
method comprising:

applying three phases of power to the device via first, second and third power conductors in a cable;

applying one phase of power and data signals to the device via a fourth power conductor in the cable;

5 applying data signals to the device via a neutral conductor in the cable in cooperation with the fourth power conductor; and

interrupting power to the first, second and third conductors while maintaining power and data signals to the device via the fourth conductor and the neutral conductor.

10 7. The method of claim 6, further comprising coupling the device to an earth ground via an earth ground conductor in the cable.

8. The method of claim 6, wherein the data signals include signals in accordance with a predetermined data communications protocol.

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9. The method of claim 6, wherein the data signals include signals in accordance with a predetermined override protocol in addition to the data communications protocol.

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10. A method of transmitting power and data, comprising:

applying data signals and three-phase power to a device via a cable, the cable comprising first and second power conductors configured to conduct two phases of three-phase power, and a third power conductor configured to conduct a third-phase of three phase power and data signals; and a neutral conductor configured to conduct data signals
25 from the data source and return power in cooperation with the third conductor; and

interrupting power to the first and second conductors such that the device continues to receive the data signals and at least one phase of three-phase power via the third power conductor and the neutral conductor.

11. The method as recited in claim 10, wherein interrupting comprises interrupting the first and second power conductors in response to data signals, wherein the data signals include override signals in accordance with an override protocol.

5 12. The method as recited in claim 10, further comprising converting the third phase of power to a second power level.

13. The method as recited in claim 12, wherein the second power level comprises a direct current.

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14. The method as recited in claim 13, wherein the direct current comprises 24Vdc.

15. A cable comprising:
15 first, second and third electrical conductors configured to conduct a respective phase of three-phase power, the third conductor also configured to transmit data signals; and
a fourth electrical conductor configured to transmit data signals in accordance with a data communications protocol in cooperation with the third conductor.

20 16. The cable as recited in claim 15, the cable having a substantially circular cross-section.

17. The cable as recited in claim 15, the cable having a substantially rectangular cross-section.

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18. The cable as recited in claim 15, further comprising a fifth conductor configured to couple to an earth ground.

19. The cable as recited in claim 18, wherein the fifth conductor is at least partially disposed circumferentially about the first, second and third conductors.

20. The cable as recited in claim 15, wherein the first, second, third and fourth
5 conductors each comprise individual jackets.

21. The cable as recited in claim 15, wherein the data signals include override signals in accordance with a predetermined override protocol in addition to the data communications protocol.

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22. The cable as recited in claim 15, wherein the data signals include control or information signals in accordance with the data communications protocol.

23. The cable as recited in claim 15, wherein the cable is configured to interrupt
15 two phases of three-phase power while concurrently transmitting one phase of three-phase power and the data signals to a device.

24. A cable comprising:
a plurality of primary power conductors configured to collectively conduct three-
20 phase power;

a secondary power conductor configured to conduct secondary power and data signals in accordance with a predetermined data communications protocol; and

an auxiliary conductor configured to return secondary power and to transmit data signals in accordance with the data communications protocol in cooperation with the
25 secondary power conductor.

25. The cable as recited in claim 24, further comprising a ground conductor configured to couple to an earth ground.

26. The cable as recited in claim 25, wherein the ground conductor is at least partially disposed about the power conductors and the auxiliary conductor.

27. The cable as recited in claim 24, wherein the cable is configured to transmit
5 secondary power and the data signals to a device upon interruption of the primary power conductors.

28. The cable as recited in claim 27, wherein the data signals include override
signals in accordance with a predetermined override protocol in addition to the data
10 communications protocol.

29. The cable as recited in claim 24, wherein the data signals include control or
information signals in accordance with the data communications protocol.

30. The cable as recited in claim 24, the cable having a substantially circular
15 cross-section.

31. The cable as recited in claim 24, the cable having a substantially rectangular
cross-section.
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32. The cable as recited in claim 24, wherein secondary power comprises 24V
dc.

33. The cable as recited in claim 24, wherein secondary power comprises one
25 phase of three phase power.

34. A power and data distribution system, comprising:
a data signal source configured to provide data signals in accordance with a desired data communications protocol;
a device powered by at least one phase of three-phase power and configured to
5 receive data signals; and
a cable electrically coupled between the data signal source and the device, the cable comprising:
first and second power conductors configured to conduct two phases of three-phase power, and a third conductor configured to carry a third phase of three-phase power and
10 data signals from the data signal source; and
a neutral conductor configured to return power and to carry data signals from the data signal source in cooperation with the third conductor;
wherein the cable is configured to facilitate transmission of both data signals and the
15 power to the first and second conductors.
35. The system as recited in claim 34, further comprising a switch configured to interrupt the first and second power conductors.
- 20 36. The system as recited in claim 34, further comprising power supply circuitry configured to convert the third phase of power to a second power level.
37. The system as recited in claim 36, wherein the second power level comprises a direct current.
- 25 38. The system as recited in claim 34, further comprising override circuitry configured to produce data signals in accordance with an override protocol in addition to the data communications protocol.

39. The system as recited in claim 34, further comprising remote control circuitry configured to selectably interrupt the first and second power conductors.

40. A power and data distribution system, comprising:
5 a data signal source configured to provide data signals in accordance with a desired data communications protocol;
a device powered by at least one phase of three-phase power and configured to receive data signals from the data signal source; and
a cable electrically coupled between the data signal source and the device, the cable
10 comprising:
a plurality of primary power conductors configured to carry three-phase power;
secondary power conductors configured to conduct power and data signals from the data signal source to the device;
wherein the cable is configured to maintain the data signals and power to the device
15 via the secondary power conductors upon interruption of power to the plurality of primary power conductors.

41. The power and data distribution system as recited in claim 40, wherein one of the secondary power conductors comprises a neutral conductor.
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42. The system as recited in claim 40, further comprising override circuitry, the override circuitry configured to produce signals in accordance with an override protocol in addition to the data transmission protocol.

25 43. The claim as recited in claim 40, further comprising power supply circuitry adapted to convert at least one phase of three-phase power to a control power.

44. The claim as recited in claim 43, wherein the control power comprises a direct current.